

**IN THE CLAIMS:**

1-6. (cancelled)

7. (new) A method for making transcription products corresponding to a target nucleic acid sequence in a target nucleic acid in a sample, the method comprising the steps of:

- (1) primer extending a sense promoter primer to generate a first-strand cDNA using a target nucleic acid as a template, the sense promoter primer comprising a 5'-end portion comprising a sense transcription promoter and a 3'-end portion that is complementary to the target;
- (2) ligating the resulting sense promoter-containing first-strand cDNA to itself to obtain circular sense promoter-containing first-strand cDNA;
- (3) annealing an anti-sense promoter oligonucleotide to the sense promoter containing first-strand cDNA to obtain a transcription substrate; and
- (4) transcribing the transcription substrate to make transcription products corresponding to the target nucleic acid sequence.

8. (new) The method of claim 7, wherein, prior to annealing of the anti-sense promoter oligonucleotide and transcribing of the transcription substrate, the method comprises linearizing the circular sense promoter-containing first-strand cDNA obtained in step (2) at a site 3' of the transcription promoter and 5' of the target-complementary sequence, wherein a linear sense promoter-containing first-strand cDNA is obtained; wherein said annealing of the anti-sense promoter oligonucleotide comprises annealing said anti-sense promoter oligonucleotide to said linear sense promoter-containing first-strand cDNA to obtain a linear transcription substrate.

9. (new) The method of claim 7, wherein, prior to said transcribing of the transcription substrate, the method comprises linearizing the transcription substrate obtained in step (3) at a site 3'-of the transcription promoter and 5'-of the target-complementary sequence to obtain a linear transcription substrate.

10. (new) The method of claim 7, wherein the method further comprises obtaining transcription products in step (4) and using said transcription products obtained as the target nucleic acid for obtaining additional circular sense promoter-containing first-strand cDNA, additional circular transcription substrates and/or additional transcription products by applying the method of claim 7.
11. (new) The method of claim 8, wherein the method further comprises obtaining transcription products and using said transcription products obtained as the target nucleic acid for obtaining additional circular sense promoter-containing first-strand cDNA, additional linear sense promoter-containing first-strand cDNA, additional linear transcription substrates, and/or additional transcription products by applying the method of claim 9.
12. (new) The method of claim 9, wherein the method further comprises obtaining transcription products and using said transcription products obtained as the target nucleic acid for obtaining additional circular sense promoter-containing first-strand cDNA, additional circular transcription substrates, additional linear transcription substrates, and/or additional transcription products applying the method of claim 10.
13. (new) The method of claim 7, wherein the anti-sense promoter oligonucleotide is attached or immobilized on a surface or wherein the anti-sense promoter oligonucleotide is attached to an analyte-binding substance (ABS).
14. (new) The method of claim 8, wherein the anti-sense promoter oligonucleotide is attached or immobilized on a surface or wherein the anti-sense promoter oligonucleotide is attached to an analyte-binding substance (ABS).
15. (new) The method of claim 9, wherein the anti-sense promoter oligonucleotide is attached or immobilized on a surface or wherein the anti-sense promoter oligonucleotide is attached to an analyte-binding substance (ABS).

16. (new) The method of claim 7, wherein said transcribing the transcription substrate to make transcription products is performed using an RNA polymerase selected from the group consisting of: (i) a wild-type T7-type RNA polymerase and (ii) a mutant T7-type RNA polymerase.
17. (new) The method of claim 7, wherein said transcribing the transcription substrate to make transcription products is performed using an RNA polymerase selected from the group consisting of: (i) wild-type T7 RNAP; (ii) T7 RNAP Y639F mutant enzyme; (iii) T7 RNAP mutant enzyme having altered amino acids at positions 639 and 784; (iv) wild-type T3 RNAP; (v) T3 RNAP Y639F mutant enzyme; (vi) wild-type SP6 RNAP; and (vii) SP6 RNAP Y639F mutant enzyme.
18. (new) The method of claim 7, wherein said transcribing the transcription substrate to make transcription products is performed using one or more ribonucleotides selected from the group consisting of: (i) the canonical ribonucleotides ATP, CTP, GTP, and UTP; (ii) 5-allylamino-UTP; (iii) 2'-deoxyribonucleotides dATP, dCTP, dGTP, and dUTP; UTP; (iv) 2'-F-substituted 2'-dATP, 2'-dCTP, 2'-dGTP, and 2'-dUTP; (vi) 2'-amino-substituted 2'-dATP, 2'-dCTP, 2'-dGTP, and 2'-dUTP; (vii) 2'-azido-substituted 2'-dATP, 2'-dCTP, 2'-dGTP, and 2'-dUTP; and (viii) 2'-methoxy-substituted 2'-dATP, 2'-dCTP, 2'-dGTP, and 2'-dUTP.
19. (new) The method of claim 7, wherein the transcription products are used in a process involving (a) *in vitro* or *in vivo* translation; (b) RNAi to silence one or more genes *in vivo*; (c) spotting on a surface to make expression arrays or microarrays; (d) making hybridization probes for arrays or microarrays for gene expression profiling; or (e) making first-strand cDNA from mRNA.
20. (new) The method of claim 7, wherein the target nucleic acid is DNA.
21. (new) The method of claim 7, wherein the target nucleic acid is RNA.

22. (new) The method of claim 21, wherein the RNA is selected from the group consisting of: tRNA, rRNA, mitochondrial RNA, chloroplast RNA, micro RNA, and mRNA.
23. (new) The method of claim 7, wherein the sense promoter primer comprises a single-stranded promoter selected from the group consisting of: (i) a pseudopromoter; (ii) a synthetic promoter; and (iii) a single-stranded promoter for phage N4 vRNAP; and wherein the transcription substrate for transcribing comprises sense promoter-containing first-strand cDNA without annealing of an anti-sense promoter oligonucleotide and no anti-sense promoter oligonucleotide is provided in the method.
24. (new) The method of claim 7, wherein the sense promoter primer comprises a target-complementary portion at its 3'-end selected from the group consisting of: (i) an oligo-(dT) sequence; (ii) an anchored oligo-(dT)<sub>n</sub>X sequence; (iii) a preselected target-specific sequence; and (iv) a random sequence.
25. (new) The method of claim 24, wherein the 5'-end of the sense promoter primer comprises a phosphate or topoisomerase moiety.
26. (new) A method for amplifying the amount of a template-complementary transcription product, the method comprising the steps of:
- (1) obtaining a transcription product;
  - (2) obtaining a sense promoter primer comprising a 3'-end portion that is complementary to the 3'-end of the transcription product;
  - (3) annealing the sense promoter primer to the transcription product;
  - (4) primer-extending the sense promoter primer annealed to the transcription product with an RNA-dependent DNA polymerase under DNA synthesis conditions to obtain first-strand cDNA;
  - (5) ligating the first-strand cDNA, wherein the 5'-end is covalently joined to the 3'-end of the first-strand cDNA to obtain circular sense promoter-containing first-strand cDNA;

- (6) annealing an anti-sense promoter oligonucleotide to the circular sense promoter-containing first-strand cDNA to obtain a circular substrate for transcription; and
  - (7) contacting the circular substrate for transcription with an RNA polymerase under transcription conditions to obtain additional transcription product.
27. (new) The method of claim 26, wherein the sense promoter primer comprises a phosphate group or a topoisomerase moiety on its 5-end.
28. (new) The method of claim 26, further comprising the step of removing the RNA that is annealed to the first-strand cDNA.
29. (new) The method of claim 26, wherein the sense promoter primer comprises: (a) an N4 promoter, wherein the RNA polymerase used for transcription is selected from N4 vRNAP, mini-vRNAP, and a mutant mini-vRNAP; or (b) a single-stranded sense promoter selected from a pseudopromoter and a synthetic promoter that is used by the RNA polymerase; and wherein an anti-sense promoter oligo is not used to obtain additional transcription products.
30. (new) A method comprising the steps of:
- (1) obtaining said target nucleic acid;
  - (2) obtaining said sense promoter primer, the sense promoter primer comprising a 5'-end portion comprising a sense transcription promoter and a 3'-end portion that is complementary to the target;
  - (3) annealing the sense promoter primer with the target nucleic acid so as to form a target nucleic acid-sense promoter primer complex;
  - (4) contacting the target nucleic acid-sense promoter primer complex with a DNA polymerase under polymerization reaction conditions to obtain first-strand cDNA that is complementary to the target sequence;
  - (5) ligating the first-strand cDNA to itself under ligation conditions so as to obtain circular sense promoter-containing first-strand cDNA;
  - (6) obtaining an anti-sense promoter oligonucleotide;

- (7) annealing the anti-sense promoter oligonucleotide to the circular sense promoter-containing first-strand cDNA to obtain a circular transcription substrate; and
  - (8) contacting the circular transcription substrate with an RNA polymerase under transcription conditions wherein a transcription product is obtained.
31. (new) A method for making a transcription substrate comprising a circular sense promoter-containing first-strand cDNA that is complementary to a target sequence in cells or tissue in a tissue section, the method comprising the steps of:
- (1) contacting the cells or tissue in the tissue section under hybridizing conditions with a sense promoter primer, the sense promoter primer comprising (i) a 5'-phosphorylated portion comprising a sense transcription promoter for an RNA polymerase that can synthesize RNA using this promoter in a transcription substrate, and (ii) a 3'-end that is complementary to the target sequence;
  - (2) contacting the cells or tissue containing the sense promoter primer in the tissue section with a reverse transcriptase under reverse transcription conditions so as to obtain a first-strand cDNA that is complementary to the target sequence;
  - (3) obtaining linear sense promoter-containing first-strand cDNA;
  - (4) ligating the linear sense promoter-containing first-strand cDNA to obtain circular sense promoter-containing first-strand cDNA; and
  - (5) annealing an anti-sense promoter oligo to the circular sense promoter-containing first-strand cDNA to obtain a circular transcription substrate.
32. (new) A method for obtaining transcription substrates for transcription of anti-sense transcription products, the method comprising the steps of:
- (1) synthesizing first-strand cDNA that is complementary to a target nucleic acid comprising a target sequence using a primer that lacks a promoter sequence;
  - (2) primer extending a sense promoter primer having a sequence at its 3'-end that is complementary to a specific 3' sequence of the first-strand cDNA to obtain sense promoter primer-containing second-strand cDNA;

- (3) ligating the sense promoter primer-containing second-strand cDNA to obtain circular sense promoter primer-containing second-strand cDNA; and
  - (4) annealing an anti-sense promoter oligonucleotide to the circular or linear sense promoter primer-containing second-strand cDNA to obtain circular or linear transcription substrates.
33. (new) The method of claim 32, further comprising the step of tailing the first-strand cDNA and adding an additional sequence that is not complementary to the target sequence to the 3'-end of the first-strand cDNA after step (1), but prior to step (2).
34. (new) The method of claim 32, further comprising the step of linearizing the circular sense promoter primer-containing second-strand cDNA at a site 3'-of the transcription promoter and 5'-of the target-complementary sequence of the sense promoter primer portion of said circular sense promoter primer-containing second-strand cDNA after step (3), but prior to step (4).
35. (new) The method of claim 32, further comprising step (5) of: transcribing the circular or linear transcription substrates obtained in step (4).
36. (new) A method for amplifying an amount of template-complementary transcription product, the method comprising:
- (1) obtaining a transcription product by transcription of a template of a Signal Probe that is complexed with an ABS-oligo;
  - (2) obtaining a sense promoter primer comprising a 3'-end portion that is complementary to the 3'-end of the transcription product;
  - (3) annealing the sense promoter primer to the transcription product;
  - (4) primer-extending the promoter primer annealed to the transcription product with an RNA-dependent DNA polymerase under DNA synthesis conditions so as to obtain first-strand cDNA;

- (5) ligating the first-strand cDNA, wherein the 5'-end is covalently joined to the 3'-end of the first-strand cDNA so as to obtain circular sense promoter-containing first-strand cDNA;
  - (6) annealing an anti-sense promoter oligo to the circular sense promoter-containing first-strand cDNA so as to obtain a circular substrate for transcription;
  - (7) contacting the circular substrate for transcription with an RNA polymerase under transcription conditions so as to obtain additional transcription product; and
  - (8) obtaining the additional transcription product.
37. (new) The method of claim 36, wherein the sense promoter primer additionally comprises a phosphate group or a topoisomerase moiety on its 5-end.
38. (new) The method of claim 36, further comprising the step of removing the RNA that is annealed to the first-strand cDNA after step (4), but prior to step (5).
39. (new) The method of claim 36, wherein:
- (i) the circular sense-promoter first-strand cDNA is linearized to obtain linear sense-promoter-containing first-strand cDNA;
  - (ii) an anti-sense promoter primer is annealed to the sense promoter sequence of the linear sense-promoter-containing first-strand cDNA to obtain a linear substrate for transcription; and
  - (iii) the linear substrate for transcription is contacted with an RNA polymerase under transcription conditions to obtain additional transcription product.
40. (new) The method of claim 36, wherein the sense promoter primer is a phage N4 vRNAP promoter and the RNA polymerase used for transcription is selected from the group consisting of N4 vRNAP, mini-vRNAP, and a mutant mini-vRNAP; or the sense promoter primer is a single-stranded sense promoter comprising a pseudopromoter or a synthetic promoter and the RNA polymerase is an enzyme that recognizes that specific RNA polymerase promoter, and wherein the method does not use an anti-sense promoter



oligonucleotide for annealing to the sense promoter in order to obtain transcription products.